

TABLE IV.—Flood stages in the Mississippi (Ohio basin) drainage for the month of May, 1919—Continued.

MISSISSIPPI AND TRIBUTARIES EXCEPT THE OHIO.

River and station.	Flood stage.	Above flood stages—dates.		Crest.	
		From—	To—	Stage.	Date.
<i>Mississippi:</i>	<i>Feet.</i>			<i>Feet.</i>	
Keokuk, Iowa.....	14	1	1	14.3	1
Do.....	14	4	12	17.4	8
Warsaw, Ill.....	17	1	1	17.2	1
Do.....	17	4	12	20.4	8
<i>Des Moines:</i>					
Ottumwa, Iowa.....	10	4	8	14.2	7
<i>Mississippi:</i>					
Quincy, Ill.....	14	1	15	19.7	8
Hannibal, Mo.....	13	1	17	20.1	8
Louisiana, Mo.....	12	1	16	17.8	9
Grafton, Ill.....	18	1	3	18.7	1
Do.....	18	7	17	21.4	11-12
Alton, Ill.....	21	8	16	24.1	11
Arkansas City, Ark.....	42	21	31	44.1	29-30
<i>Illinois:</i>					
Morris, Ill.....	13	4	10	15.5	6
Peru, Ill.....	14	4	27	19.0	8
Henry, Ill. <sup>1</sup> .....	7	1	31	13.3	10-11
Peoria, Ill.....	16	5	28	19.9	11-12
Havana, Ill. <sup>1</sup> .....	14	7	31	16.1	12-16
Beardstown, Ill. <sup>1</sup> .....	12	1	31	16.5	16
Pearl, Ill.....	12	1	30	15.7	13
<i>Grand:</i>					
Chillicothe, Mo.....	18	4	11	29.0	6
Brunswick, Mo.....	10	6	12	15.3	8
<i>Osage:</i>					
Warsaw, Mo.....	22	18	18	23.2	18
Do.....	22	20	20	22.0	20
<i>Yazoo:</i>					
Yazoo City, Miss.....	25	1	9	27.4	1
<i>Smokey Hill:</i>					
Lindsborg, Kans.....	19	6	6	19.0	6
Do.....	19	16	16	20.0	16
Do.....	19	19	19	20.0	19
<i>Neosho:</i>					
Oswego, Kans.....	17	21	21	18.2	21

<sup>1</sup> Continued into June.

TABLE V.—Flood stages in the West Gulf drainage for the month of May, 1919.

River and station.	Flood stage.	Above flood stages—dates.		Crest.	
		From—	To—	Stage.	Date.
<i>Trinity:</i>	<i>Feet.</i>			<i>Feet.</i>	
Dallas, Tex.....	25	18	18	25.1	18
Do.....	25	27	29	28.8	28
<i>Guadalupe:</i>					
Victoria, Tex.....	16	11	12	18.0	11
Do.....	16	15	15	16.8	15
Do.....	16	27	29	20.8	28

TABLE VI.—Flood stages in the Pacific drainage for the month of May, 1919.

River and station.	Flood stage.	Above flood stages—dates.		Crest.	
		From—	To—	Stage.	Date.
<i>Kings:</i>	<i>Feet.</i>			<i>Feet.</i>	
Piedra, Cal.....	12	29	29	12.0	29

TABLE VII.—Flood stages in the Pacific (Eel River basin) drainage for the month of May, 1919.

River and station.	Flood stage.	Above flood stages—dates.		Crest.	
		From—	To—	Stage.	Date.
<i>Columbia:</i>	<i>Feet.</i>			<i>Feet.</i>	
Marcus, Wash. <sup>1</sup> .....	24	26	31	27.2	31
Vancouver, Wash. <sup>1</sup> .....	15	26	31	18.7	31
<i>Kootenai:</i>					
Bonnets Ferry, Idaho <sup>1</sup> .....	26	26	31	28.7	30
<i>Willamette:</i>					
Portland, Oreg. <sup>1</sup> .....	15	26	31	18.1	31

<sup>1</sup> Continued into June.

## MEAN LAKE LEVELS DURING MAY, 1919.

BY UNITED STATES LAKE SURVEY.

[Dated: Detroit, Mich., June 4, 1919.]

The following data are reported in the "Notice to Mariners" of the above date:

Data.	Lakes.*			
	Superior.	Michigan and Huron.	Erie.	Ontario.
Mean level during May, 1919:	<i>Feet.</i>	<i>Feet.</i>	<i>Feet.</i>	<i>Feet.</i>
Above mean sea level at New York.....	602.25	581.38	573.69	247.27
Above or below—				
Mean stage of April, 1919.....	+0.23	+0.36	+0.64	+0.84
Mean stage of May.....	+0.57	-0.28	+1.52	+0.14
Average stage for May, last 10 years.....	+0.35	+0.89	+1.04	+0.59
Highest recorded May stage.....	-0.80	-2.14	-0.73	-1.63
Lowest recorded May stage.....	+1.43	+1.82	-2.38	+2.31
Average relation of the May level to—				
April level.....		+0.3	+0.4	+0.3
June level.....		-0.3	-0.2	-0.2

\* Lake St. Clair's level: In May, 576.38 feet.

## EFFECT OF WEATHER ON CROPS, MAY, 1919.

By J. WARREN SMITH, Meteorologist in Charge.

**Farm work.**—Frequent rains and resulting wet soil during most of the month from the central Plains States eastward were unfavorable for farm work, and plowing and planting were much retarded, while like conditions combined with wet soil at the beginning of the month delayed work in portions of the South, particularly in the western Gulf districts. In other sections of the country the month was generally favorable for outdoor operations, and farm work progressed satisfactorily, especially in the more western States.

**Winter grains.**—The month was generally favorable for the development of winter grains, and these crops made good to excellent progress in practically all of the principal producing sections. In some of the less important areas, however, the latter part of the month was unfavorable, particularly in the central and northern Rocky Mountain districts and in Montana, where dry weather and high temperatures produced harmful results. The growth of winter wheat was rank, and there were some complaints of lodging in the southern Great Plains area and in some central valley States.

**Spring crops.**—Spring grains made satisfactory progress in most sections during the month under the influence of favorable weather, although the seeding of oats was much delayed in some northeastern sections on account of continued wet soil.

It was too cool and wet for corn in much of the principal corn belt; planting was delayed and germination hindered in many sections. It was more favorable for this crop in most of the South, however, and satisfactory advance was made.

It was also too cool and wet for cotton, and that crop made unsatisfactory advancement, except for fairly good progress in some of the more eastern portions of the belt. It was especially unfavorable for cotton west of the Mississippi River.

**Truck crops.**—The cool, cloudy weather, with frequent rains, during much of the month in most central and northern districts produced conditions unfavorable for planting and growth of truck crops, but these made better progress in the more southern States, particularly in the southeast. Potatoes and other cool weather crops made generally good advance, however, where the soil was not too wet.